

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A multiple stage currency processing system, comprising:

a first currency processing stage including a plurality of first stage currency processing devices each having at least one output receptacle, each of the first stage currency processing devices being adapted to denominate currency bills received in the first stage, the first stage being adapted to output a plurality of first batches of currency bills processed in the first stage, each first batch having an associated first total corresponding to the value of the currency bills in a respective first batch;

a second currency processing stage for receiving first batches from the first stage, the second stage including at least one second stage currency processing device having a plurality of output receptacles, the at least one second stage currency processing device being adapted to denominate currency bills and to sort currency bills into the plurality of output receptacles, the at least one second stage device adapted to determine a second total associated with each first batch processed by the at least one second stage device, the second total corresponding to the value of the currency bills in a first batch processed by the at least one second stage device, the second stage being adapted to output a plurality of second batches of currency bills processed in the second stage, each second batch having an associated third total corresponding to the value of the currency bills in a respective second batch;

a third currency processing stage for receiving the second batches from the second stage, the third stage having a plurality of third stage currency processing devices each having at least one output receptacle, each third stage device being adapted to count currency bills and to

suspend operation when a predetermined number of currency bills are transported to the at least one output receptacle, the third stage devices each being adapted to determine a fourth total associated with each second batch processed by ~~the~~ a third stage ~~devices~~ device, each fourth total corresponding to the value of the currency bills in a respective second batch processed by third stage devices; and

a central processing unit interfaced with each of the first, second, and third stage currency processing devices, the central processing unit adapted to receive information from each of the first, second, and third stage currency processing devices, the central processing unit being adapted to compare first totals to second totals, the central processing unit being adapted to compare third totals to fourth totals.

2. (Original) The system of claim 1 wherein each of the first stage devices includes an operator interface adapted to receive information from an operator of the first stage device.

3. (Previously Presented) The system of claim 1 wherein the central processing unit is adapted to control the operation of the at least one second stage currency processing device, an operator interface being adapted to receive information from an operator of the second stage currency processing device.

4. (Original) The system of claim 1 wherein each of the third stage devices includes an operator interface adapted to receive information from an operator of the third stage device.

5. (Currently Amended) The system of claim 1 wherein the at least one second stage device comprises a plurality of storage cassettes associated with the plurality of output receptacles

and wherein each second batch corresponds to ~~the~~ currency contained in a storage cassette associated with one of the plurality of the output receptacles of the second stage device.

6. (Previously Presented) The system of claim 1 wherein the central processing unit is adapted to record the operator associated with the processing of each first batch.

7. (Previously Presented) The system of claim 1 wherein the central processing unit is adapted to record the first stage device associated with the processing of each first batch.

8. (Original) The system of claim 1 wherein each first batch corresponds to all of the currency processed by a particular first stage device during a specific time period.

9. (Original) The system of claim 8 wherein the time period is one day.

10. (Original) The system of claim 8 wherein the time period corresponds to a work shift of an operator of a particular first stage device.

11. (Original) The system of claim 1 wherein a first batch corresponds to all of the currency deposited by a specific customer.

12. (Original) The system of claim 1 wherein the central processing unit is adapted to generate an error signal when a second total does not favorably compare to a first total.

13. (Original) The system of claim 1 wherein the central processing unit is adapted to generate an error signal when a third total does not favorably compare to a fourth total.

14. (Original) The system of claim 1 wherein the at least one second stage currency processing device sorts currency bills according to denomination.

15. (Original) The system of claim 1 wherein the plurality of the third stage devices are adapted to determine the denomination of the currency bills.

16. (Original) The system of claim 15 wherein each of the plurality of third stage devices includes an operator interface adapted to receive input from an operator specifying a currency denomination to be processed.

17. (Original) The system of claim 16 wherein each of the plurality of third stage devices are adapted to generate a stranger error signal when a determined denomination of a currency bill does not match the specified denomination.

18. (Previously Presented) The system of claim 17 wherein the third stage devices have two output receptacles, each of the third stage devices being adapted to suspend operation upon generation of a stranger error signal.

19. (Previously Presented) The system of claim 17 wherein the third stage devices have a single output receptacle, each of the third stage devices being adapted to suspend operation upon generation of a stranger error signal.

20. (Original) The system of claim 1 wherein at least one of the plurality of first stage devices has two output receptacles.

21. (Original) The system of claim 1 wherein at least one of the plurality of first stage devices has a single output receptacle.

22. (Original) The system of claim 1 wherein at least one of the plurality of the first stage devices is adapted to evaluate the authenticity of currency bills.

23. (Original) The system of claim 1 wherein the at least one second stage device is adapted to evaluate the authenticity of currency bills.

24. (Original) The system of claim 1 wherein at least one of the plurality of third stage devices is adapted to evaluate the authenticity of currency bills.

25. (Currently Amended) A method for processing currency bills with a multiple-stage currency processing system ~~comprising~~ having a first stage including a plurality of first stage currency processing devices each having at least one output receptacle, a second currency processing stage including at least one currency processing device having a plurality of output receptacles, and a third currency processing stage including a plurality of currency processing devices each having at least one output receptacle, the method comprising:

receiving currency bills to be processed in the first stage currency processing devices;

denominating the received currency bills with one or more of the first stage devices;

grouping currency bills denominated by the one or more first stage devices into a plurality of first batches, each first batch having an associated first total corresponding to the value of currency bills in the first batch;

receiving one or more of the first batches from the first stage currency processing devices in the at least one second stage currency processing device;

denominating the currency bills of each received first batch with the at least one second stage currency processing device;

determining a second total for each received first batch with the at least one second stage currency processing device, each second total corresponding to the value of the currency bills in a first batch;

comparing the first totals to the second totals;

sorting currency bills of each received first batch with the at least one second stage currency processing device into a plurality of second batches, each second batch having an associated third total corresponding to the value of currency bills in the second batch;

receiving one or more second batches in the one or more third stage currency processing devices;

counting the currency bills of each received second batch with one or more of the plurality of third stage currency processing devices;

determining a fourth total for each received second batch with the one or more third stage currency processing devices, each fourth total corresponding to the value of the currency bills in a second batch; and

comparing the third totals to the fourth totals.

26. (Original) The method of claim 25 further comprising receiving information from an operator of a first stage currency processing device via an operator interface.

27. (Original) The method of claim 26 wherein the information is selected from the group consisting of a customer account number, a customer name, date, time, and a declared deposit amount.

28. (Original) The method of claim 25 further comprising interfacing each of the plurality of first stage currency processing devices, the at least one second stage currency processing device, and each of the plurality of third stage currency processing devices with a central processing unit.

29. (Original) The method of claim 28 wherein the central processing unit is adapted to receive information from each of the plurality of first stage currency processing devices, the at least one second stage currency processing device, and each of the plurality of third stage currency processing devices.

30. (Original) The method of claim 25 wherein the plurality of second batches correspond to the plurality of output receptacles of the at least one second stage currency processing device.

31. (Original) The method of claim 25 wherein sorting further comprises sorting according to denomination.

32. (Currently Amended) A method for processing currency bills with a multiple-stage currency processing system having a first stage including a plurality of first stage currency processing devices having at least one output receptacle, a second currency processing stage including at least one currency processing device having a plurality of output receptacles, and a third currency processing stage including a plurality of currency processing devices having at least one output receptacle, the method comprising:

receiving currency bills to be processed in the first stage currency processing devices;

denominating the received currency bills with one or more of the first stage devices;

grouping currency bills denominated by the one or more first stage devices into a plurality of first batches, each first batch having an associated first total corresponding to the value of currency bills in the first batch, the ~~The method of claim 25 wherein grouping further comprises grouping~~ being performed ~~according to a predetermined criteria, the predetermined criteria being at least one of selected from the group consisting of (a) an operator of the first stage currency processing devices, (b) a specific first stage device, (c) a batch of currency processed by a first stage device during a specific time period, and (d) a customer identification[.];~~

receiving one or more of the first batches from the first stage currency processing devices in the at least one second stage currency processing device;

denominating the currency bills of each received first batch with the at least one second stage currency processing device;

determining a second total for each received first batch with the at least one second stage currency processing device, each second total corresponding to the value of the currency bills in a first batch;

comparing the first totals to the second totals;

sorting currency bills of each received first batch with the at least one second stage currency processing device into a plurality of second batches, each second batch having an associated third total corresponding to the value of currency bills in the second batch;

receiving one or more second batches in the one or more third stage currency processing devices;

counting the currency bills of each received second batch with one or more of the plurality of third stage currency processing devices;

determining a fourth total for each received second batch with the one or more third stage currency processing devices, each fourth total corresponding to the value of the currency bills in a second batch; and

comparing the third totals to the fourth totals.

33. (Original) The method of claim 25 further comprising generating an error signal when a second total does not favorably compare to a first total.

34. (Original) The method of claim 25 further comprising generating an error signal when a third total does not favorably compare to a fourth total.

35. (Previously Presented) The method of claim 25 further comprising determining the denomination of each of the currency bills with the one or more of the plurality of third stage currency processing devices.

36. (Original) The method of claim 25 further comprising receiving input from an operator of the one or more third stage currency processing devices via an operator interface specifying a currency denomination to be processed.

37. (Original) The method of claim 36 wherein the one or more third stage devices are adapted to generate a stranger error signal when a determined denomination of a currency bill does not match the specified denomination.

38. (Previously Presented) The method of claim 37 wherein the one or more third stage devices have two output receptacles, the one or more third stage devices being adapted to suspend operation upon generation of a stranger error signal.

39. (Previously Presented) The method of claim 37 wherein the one or more third stage devices have two output receptacles, the one or more third stage devices being adapted to off-sort a currency bill triggering a stranger error signal.

40. (Previously Presented) The method of claim 37 wherein the one or more third stage devices have a single output receptacle, the one or more third stage devices being adapted to suspend operation upon generation of a stranger error signal.

41. (Original) The method of claim 25 wherein at least one of the plurality of first stage devices has two output receptacles.

42. (Original) The method of claim 25 wherein at least one of the plurality of first stage devices has a single output receptacle.

43. (Original) The method of claim 25 further comprising evaluating the authenticity of the currency bills with one or more of the first stage currency processing devices.

44. (Original) The method of claim 25 further comprising evaluating the authenticity of the currency bills of each received first batch with the at least one second stage currency processing device.

45. (Original) The method of claim 25 further comprising evaluating the authenticity of the currency bills of each received second batch with one or more of the plurality of third stage currency processing devices.

46. (Original) A currency processing system having three stages, comprising:
a first stage including a plurality of compact currency handling devices adapted to denominate and count currency bills, the compact devices having an input receptacle and at least one output receptacle;

a second stage including a high-capacity currency handling device adapted to denominate, count, and sort currency bills, the high-capacity device having multiple output receptacles;

a third stage including a plurality of compact currency handling devices adapted to count currency bills, the compact devices having an input receptacle and at least one output receptacle;
and

a controller operatively coupled with the first, second, and third stages, the controller adapted to receive and to compare information related to the counting of currency bills at each stage.

47. (Original) The system of claim 46 wherein the controller comprises a personal computer adapted to control the operation of the high-capacity device of the second stage.

48. (Original) The system of claim 46 wherein each of the compact devices of the first stage includes an operator interface adapted to receive input from an operator of a compact device of the first stage.

49. (Original) The system of claim 48 wherein the operator interface includes a ten key numeric keypad.

50. (Original) The system of claim 46 wherein one or more of the compact devices of the first stage has a single output receptacle.

51. (Original) The system of claim 46 wherein one or more of the compact devices of the first stage has two output receptacles.

52. (Original) The system of claim 46 wherein one or more of the compact devices of the first stage, the high-capacity device of the second stage, and the compact devices of the third stage is adapted to evaluate the authenticity of currency bills.

53. (Original) The system of claim 46 wherein one or more of the compact devices of the first stage, the high-capacity device of the second stage, and the compact devices of the third stage is adapted to discriminate between fit and unfit currency bills according to a predetermined criteria.

54. (Previously Presented) A method for processing currency bills with a multi-stage currency processing system having a first, second, and third stage, the method comprising:

receiving one or more deposits including currency bills at the first stage;

denominating and counting the received currency bills using at least one compact currency handling device at the first stage;

receiving currency bills denominated and counted in the first stage at the second stage;

denominating, counting, and sorting the currency bills received at the second stage using a high-capacity currency handling device;

receiving currency bills denominated, counted, and sorted in the second stage at the third stage;

counting the currency bills received at the third stage using at least one compact currency handling device; and

comparing information related to the counting of currency at each of the first, second, and third stages with a controller interfaced with each of the at least one compact currency handling device of the first stage, the high-capacity currency handling device of the second stage, and the at least one compact currency handling device of the third stage.

55. (Original) The method of claim 54 wherein said controller comprises a personal computer adapted to control the operation of the high-capacity currency handling device of the second stage.

56. (Original) The method of claim 54 further comprising authenticating currency bills with one or more of the at least one compact currency handling device of the first stage, the high-capacity currency handling device of the second stage, and the at least one compact currency handling device of the third stage.

57. (Previously Presented) The method of claim 54 wherein the at least one compact currency handling device of the first stage includes an operator interface, the method

further comprising receiving input, at the first stage, indicative of an account number, a declared balance, a date, and at least one additional data entry field.

58. (Currently Amended) The method of claim 57 wherein the at least one additional data entry field includes at least one of a checks total data entry field, a credit card total data entry field, or at least one other total data entry field, the method further comprising receiving at least one of a checks total in the checks total data entry field, a credit card total in the credit card total data entry field, or an other total in the other total data entry field.

59. (Previously Presented) The method of claim 54 wherein comparing further comprises comparing a first count of the one or more deposits of currency bills received at the first stage determined at the first stage to a second count of the one or more deposits of currency bills received at the second stage determined at the second stage.

60. (Original) The method of claim 54 wherein sorting the currency bills received at the second stage further comprises sorting received currency bills by denomination.

61. (Currently Amended) The method of claim 60 wherein sorting further ~~comprising~~ comprises transporting the currency bills to a plurality of storage cassettes associated with the plurality of output receptacles of the high-capacity currency handling device, each of the plurality of output receptacles corresponding to a specific one of a plurality of denominations of currency bills.

62. (Previously Presented) The method of claim 60 further comprising:
transferring currency bills sorted by denomination at the second stage to the third stage;
and

verifying the count of the currency bills obtained at the second stage with a compact currency handling device of the third stage.

63. (Original) The method of claim 62 further comprising at the third stage, following the verifying at the third stage, strapping groups of a predetermined number of currency bills.

64. (Original) The method of claim 54 further comprising comparing currency totals for each of the first, second, and third stages.

65. (Original) The method of claim 54 further comprising, at the first stage, summarizing deposit totals into one or more of day totals, shift totals, customer totals, teller totals, and batch totals.

66. (Original) The method of claim 54 wherein each of the one or more compact currency handling devices of the first stage is associated with a teller station at a bank.

67. (Original) The method of claim 66 further comprising summarizing the total amount of currency processed by each teller station with the controller.

68. (Original) The method of claim 54 further comprising maintaining a detailed summary of subtotals of currency delivered from the first stage to the second stage.

69. (Original) The method of claim 54 further comprising:
determining the total values of currency processed by denomination at the second stage;
and

sending the total values of currency processed by denomination at the second stage to the controller.

70. (Original) A multiple-stage currency processing system, comprising:
a first currency processing stage for receiving account deposits including currency bills, the first stage including a plurality of first stage currency processing devices each being adapted to denominate currency bills, each first stage device being adapted to output a first batch of

currency bills, each first batch having an associated first total corresponding to the value of the currency bills in the respective first batch;

a second currency processing stage for receiving first batches from the first stage, the second stage including at least one second stage currency processing device having a plurality of output receptacles, the at least one second stage currency processing device being adapted to denominate currency bills and to sort currency bills of the received first batches into a plurality of second batches, the at least one second stage device adapted to determine a second total associated with each first batch processed by the at least one second stage device, the second total corresponding to the value of the currency bills in the first batch processed by the at least one second stage device, each second batch having an associated third total corresponding to the value of the currency bills in the respective second batch;

a third currency processing stage for receiving the second batches from the second stage, the third stage having a plurality of third stage currency processing devices being adapted to count currency bills of the received second batches, the third stage devices being adapted to determine a fourth total associated with each second batch processed by the third stage devices, each fourth total corresponding to the value of the currency bills in the respective second batch processed by third stage devices; and

a central processing unit communicatively linked to each of the first, second, and third stage currency processing devices, the central processing unit being adapted to compare the first totals to the second totals and to compare the third totals to the fourth totals.

71. (Currently Amended) A method for processing currency bills with a multiple-stage currency processing system ~~comprising~~ ~~having~~ a first stage including a plurality of first stage currency processing devices having at least one output receptacle, a second currency

processing stage including at least one currency processing device having a plurality of output receptacles, and a third currency processing stage including a plurality of currency processing devices having at least one output receptacle, the first stage devices, the second stage devices, and the third stage devices being communicatively linked to a central computer, the method comprising:

- receiving deposits including currency bills to be processed in the first currency processing stage;

- denominating the received currency bills with one or more of the first stage devices;

- determining the value of the currency bills in each received deposit, each deposit having an associated first total corresponding to the value of currency bills in the deposit;

- assigning a first batch number to each deposit;

- transmitting, to the central computer, the first batch number and corresponding first total for each deposit received in the first stage;

- receiving one or more deposits from the first currency processing stage in the second currency processing stage;

- entering the first batch number for each deposit into an operator interface communicatively linked to the central computer;

- denominating the currency bills of each received first batch with the at least one second stage currency processing device;

- determining a second total for each deposit received in the second stage with the at least one second stage currency processing device, the second total corresponding to the value of the currency bills in a respective deposit;

- comparing respective first and second totals;

sorting currency bills of each deposit received from the first stage with the at least one second stage currency processing device into a plurality of second batches, each second batch having an associated third total corresponding to the value of currency bills in the second batch,

assigning a second batch number to each second batch;

transmitting, to the central computer, the second batch number and corresponding third total for each second batch;

receiving one or more second batches in the third currency processing stage;

entering the second batch number for each second batch into an operator interface communicatively linked to a central computer;

counting the currency bills of each received second batch with one or more of the plurality of third stage currency processing devices;

determining a fourth total for each received second batch with the one or more third stage currency processing devices, the fourth total corresponding to the value of the currency bills in a respective second batch; and

comparing respective third and fourth totals.

72. (Previously Presented) The method of claim 71 wherein transmitting further comprises transmitting information selected from the group comprising data indicative of an operator of one of the plurality of first stage devices, data indicative of the time a deposit is received by the first currency processing stage, data indicative of the date a deposit is received by the first currency processing stage, data indicative of the particular one of the first stage devices that processes a received deposit, data indicative of an account number of a customer making a deposit, and data indicative of the identity of a customer making a deposit.

73. (Previously Presented) The method of claim 71 wherein counting the currency bills of each received second batch with one or more of the plurality of third stage currency processing devices further comprises suspending operation of a third stage device after a predetermined number of currency bills have been transported to an output receptacle of the third stage device.

74. (Previously Presented) The method of claim 73 further comprising resuming operation of a third stage device whose operation has been suspended upon receipt of operator input.

75. (Previously Presented) A multiple-stage currency processing system, comprising:

a first currency processing stage for receiving customer deposits including currency bills, the first currency processing stage including a plurality of first stage currency processing devices each being adapted to denominate currency bills, the first currency processing stage being adapted to output a plurality of first batches of currency bills, each of the first batches corresponding to the currency bills processed by an operator of a first stage currency processing device during a predetermined time period, each first batch having an associated first total corresponding to the value of the currency bills in a respective first batch;

a second currency processing stage for receiving first batches from the first stage, the second stage including at least one second stage currency processing device having a plurality of output receptacles, the at least one second stage currency processing device being adapted to denominate currency bills and to sort currency bills of the received first batches into a plurality of second batches, the at least one second stage device adapted to determine a second total associated with each first batch processed by the at least one second stage device, each second

total corresponding to the value of the currency bills in a first batch processed by the at least one second stage device, each second batch having an associated third total corresponding to the value of the currency bills in a respective second batch;

a third currency processing stage for receiving the second batches from the second stage, the third stage having a plurality of third stage currency processing devices being adapted to count currency bills of the received second batches, the third stage devices being adapted to determine a fourth total associated with each second batch processed by the third stage devices, each fourth total corresponding to the value of the currency bills in a respective second batch processed by third stage devices; and

a central processing unit communicatively linked to each of the first, second and third stage currency processing devices, the central processing unit being adapted to compare first totals to second totals, the central processing unit being adapted to compare third totals to fourth totals.

76. (Previously Presented) The currency processing system of claim 75 wherein the predetermined time period is selected from the group comprising one day, one hour, a half day, a teller shift, and half a teller shift.

77. (Previously Presented) The currency processing system of claim 75 wherein each of the third stage devices is adapted to suspend operation after a predetermined number of currency bills have been transported to an output receptacle of a third stage device, the third stage device being adapted to resume operation upon receipt of input from an operator of the third stage device.